

Hypothesis Concerning Restorative Effects of Sleep and Purpose of Dreams

12 May 2021

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Introduction

The current doctrine concerning the mode of restoration of nominal function associated with sleep suggests wrongly that dreams are central to “memory consolidation” and that REM sleep is necessary for restorative sleep.

Although REM sleep generally tends to be more restorative than non-REM sleep and REM is associated with dreaming, this is the extent to which the current doctrine is correct.

Abstract

Fatigue associated with sleep deprivation is caused by a chemical byproduct of the cognitive process and its accumulation. In 2017, it was discovered that the brain had an as-yet-undiscovered lymphatic system located in the meninges. That fact leads this author to conclude that this lymphatic system serves to filter these chemical byproducts (later identified after the publication of the original version of this publication as glutamates) and that these byproducts have the effect of inhibiting electrical signals.

Dreams serve the function of providing a sensory input to occupy the mind which do not require only a portion of the brain to process, allowing the brain to remain mostly dormant. These inputs (which are actually outputs of the Pre-Motor Cortex) make a person less likely to be roused by external stimuli such as sound or touch sensations while preserving the ability to be stimulated by light. Dreams are not important for memory consolidation and sleep is not required for memory consolidation. The reason why recall ability is enhanced after a night's sleep is because glutamate levels are lower after a full night's sleep and memory recall in addition to general cognition benefits from this state.

Conclusion

Enhancing the natural ability to filter glutamate byproducts should allow for cognition to be enhanced generally and for sleep requirements to be reduced. Foods rich in glutamates (including and especially monosodium glutamate) should be avoided due to their IQ-reducing effects, even if transient. It is likely that the fatigue which is frequently blamed on tryptophan after Thanksgiving meals is due to glutamates commonly used as preservatives in foods eaten at Thanksgiving.